DESIGNER STORYTELLING

David PARKINSON and Erik BOHEMIA
Northumbria University

ABSTRACT
This paper aims to explore the approaches that designers take when storytelling. Design artefacts, such as sketches, models, storyboards and multimedia presentations, are often described in terms of stories. We aim to observe designers' approaches to storytelling during a design project ran in The Global Studio, an international conglomerate of design students from various universities throughout the world. Literature that provides theory surrounding storytelling is used to provide a framework of analysis with which we used to observe the design artefacts produced by the students. The paper concludes by discussing the themes in approach to storytelling that have emerged upon observing the students' design artefacts and the implications that we believe this has for Design Education.

Keywords: Storytelling Approach, Design Education and Visualisation

1 INTRODUCTION

Our overall aim is to explore the approaches that designers take when storytelling. Firstly, through reflection on relevant literature we will establish the relationship between storytelling and design, demonstrating the relevance of our aim with respect to Design Education. We will also look at theory surrounding storytelling to provide a framework of analysis when exploring approaches to storytelling. Secondly, we will introduce The Global Studio and discuss the opportunity that The Gift project, ran by The Global Studio in 2010, provided us in exploring designers approaches to storytelling across multi-cultural design teams.
After this, we will comment on the themes in approach to storytelling of the designers involved in The Gift project, by examining the design artefacts they produced with the framework of analysis established. Finally, in the discussion and conclusion we will highlight the implications of this research in terms of Design Education and suggest ways in which to further it.

2 STORYTELLING AND DESIGN

According to McDonnell et al. [1], stories represent 'a powerful and an accessible means of sharing knowledge and their value and pervasiveness in conveying knowledge is well-recognised'. Consequently, it stands to reason that during human interaction, storytelling will occur in some form during the conveyance of knowledge from one party to another [2]. In the context of this paper, design artefacts encompass the knowledge being conveyed between different teams of designers.
When exploring literature that addresses the tenets of storytelling in detail, it is apparent why pervasiveness in sharing and conveying knowledge is attributed to storytelling. Bruner [3] lists the constituents of a story as follows:

- *Action directed towards goal*
- *Order established between events and states*
- *Sensitivity towards what is canonical in human interaction*
- *The revealing of a narrator's perspective*

These constituents can be described as follows; a story must be told with a purpose, it must state what has occurred and when, it will demonstrate accepted human behaviours in some form and it will deliver the perspective of the storyteller. With these constituents, it is apparent that storytelling is more than simple representation; it is the creation of an interpretation with which an audience is able to engage [1]. Therefore, in order to share this interpretation, whether this is to highlight a problem,

establish criteria or even to propose a design solution, an individual can use a story for these purposes. Consequently, it stands to reason that there exists a multitude of approaches with regard to storytelling.

When comparing the purpose of a design artefact to literature on the tenets of storytelling, it can be seen how one relates to the other. For example, the following table lists the criteria for storytelling proposed by Bruner [3] and how a design artefact fulfils these criteria.

Table 1. Storytelling Criteria and Design Artefacts

Storytelling Criteria:	**Design Artefact:**
Action directed towards goal; a story told with a purpose	A design artefact is constructed with the purpose of providing a solution to a design brief
Order established between events and states; state what has occurred and when	If the design artefact is a multimedia presentation, storyboard or report the order of events and states are explicit. If the artefact is a model, rendering or sketch the order of events and states are embedded and will be made explicit when presented by the designer
Sensitivity towards what is canonical in human interaction; demonstrate expected human behaviours in some form	Human interaction with the end product of a project, for which a design artefact contributes to the production of, is of primary concern
The revealing of a narrators perspective; deliver the perspective of the storyteller	A design artefact represents one solution or part of a solution to a design brief, of which there may be many, and therefore is an interpretation of the designer or design team that created it

The idea that artefacts produced by designers can take the form of a story is a notion that is shared by many. For example, Philmlee [4], who examines design process in organisations, declares that 'design is the simple conveyance of a story'. In addition to this, in their description of communication during a design process, Porter et al. [5] declare that all 'designers, like all design objects, tell stories, sometimes deliberately, many other times without much degree of consciousness'. This would indicate that more research aimed at understanding approaches to storytelling needs to be conducted, so that designers can make conscious decisions about how to tell a story and therefore, have greater influence over the impact of their design artefact. For example, research indicates that communication between cross-disciplinary design team members is one of the key factors influencing the outcomes of a design process [6]. Thus, as storytelling is an integral part of the communication process [7], we argue that there is a need to develop a better understanding of how storytelling is affecting the activities related to the design process and the outcomes resulting from this process.

For the purposes of this paper we will consider a number of approaches to storytelling proposed by theorists as methods of good practice and why, in order to build a framework with which to analyse design artefacts.

Firstly, when looking at storytelling theory a theme that emerges is artistry. Artistry, in this context is the deliberate use of a distinguished style in telling a story such as a comic strip rather than simple drawings or a silent movie rather than raw footage. For example, Tufts [8] describes how filmmakers believe that to move an audience to action, the power of art should be of primary importance in a stories construction.

Secondly, a storytelling approach that is discussed as a method of best practice is using characterisation. For example, Seah [9] states in a design blog that putting 'the client in the hero-protagonist role' is more likely to engage the client. It is evident that this school of thought is shared across professions, Denning [10], a business consultant, advocates this idea by stating that successful stories often 'link the audience with a positive idea and a protagonist with whom the audience empathizes'. Another example of characterisation is the persona-scenario. Although no mutual definition exists for what a scenario exactly is, it is in no dispute that scenarios are stories. The persona

element of a persona-scenario is simply a fabricated user, often constructed using data from user research; Madsen and Nielsen [11] offer this as a method of best practice when telling a design story in order to demonstrate the value of a design. These approaches to characterisation also highlight a theme in storytelling approach that we will call familiarity. Using the client as a character or creating a persona-scenario with data from user research demonstrates that there also exists a belief in using characters and environments/situations familiar to the audience so that they can more easily relate to the story and empathise with its message.

Thirdly, storytelling is often discussed in relation to the semiotic environments it uses, such as text, voice, music, imagery, film and so on. The manipulation of more semiotic environments in conjunction with one another is often a skill attributed to more engaging storytelling. For example, Signes [12] claims that digital storytelling, of which by definition uses many layers of semiotic environment, with regard to storytelling as a whole 'has considerably enriched its format, presentation and distribution modes with the inclusion of the newest multimedia technology'.

Finally, considering time when constructing a story is often discussed in relation to understanding. Signes [12] discusses pacing as an important factor in conveying a story, relating timing to story construction. This is also comparable to Madsen and Nielsen's [11] sequencing strategy for the creation of a persona-scenario as a technique for telling a design story.

The following table summarises these approaches to storytelling that we will consider when observing design artefacts:

Table 2. Themes in Approach and their Explanations

Approach:	**Explanation of Approach:**
Artistry:	Adopting distinguished artistic styles in the construction of a story, to make it more impactful.
Characterisation:	Using people in a story, demonstrating how they interact with their design.
Familiarity:	Deliberately using characters, environments or situations that the audience is familiar with so that they can empathise with the story's message.
Semiotic Layering:	Layering several semiotic environments such as speech, music, imagery, film and text, providing a rich storytelling experience.
Time Based:	Having a definite set of occurrences in chronological order, to promote understanding.

3 THE GLOBAL STUDIO: THE GIFT PROJECT 2010

The idea of the Global Studio is inspired by the changes that current trends in manufacturing have shaped, influencing the way designers develop their products. A large body of research has signalled the shift from a linear and hierarchical model of product development and manufacturing, where everything happened in proximity, to a model of 'agile' manufacturing characterised by virtual partnerships and the dispersal of the design process. The new global division of labour has meant that design teams are now scattered across the world as they contribute to the different components of the same commodity. For designers these changes mean cultivating additional skills to those required in a traditional work environment. The Global Studio addresses the need for a learning environment that prepares students for this virtual, networked world.

The Global Studio was delivered for the first time in 2007 at Northumbria University (England), Napier University (Scotland), and TU Delft (the Netherlands) using a blended mode of delivery incorporating both Web 2.0 technologies and face-to-face teaching.

The Global Studio encourages international participants, including academics, students and industry partners, to examine how their practices are situated. It also allows intersections of different ways of thinking and doing which provides space for the participants to interrogate their preconceived ideas of design and designers roles in wider society.

One such project ran by The Global Studio was The Gift project in 2010. Student teams from seven international universities were asked to present their outcomes through a storyboard, film or animation, making storytelling an explicit, conscious part of the design brief. The different Universities were from the following countries: Australia, China, England, Korea, Japan and Taiwan. This provides an opportunity to observe approaches to storytelling across a wide range of multi-national design teams. In analysis of the approaches to storytelling it is important to be mindful of the fact that culture, the individual skill sets of the students and the different teachings of the educational

institutions involved may limit the comparisons that can be made. For example, the assessment criteria of the educational institutions may differ between the universities and this in turn may directly impact the student's approach to storytelling. Also, the different universities provide students with different disciplinary backgrounds, for example students from the Canadian university attend a Multimedia course whereas students from Northumbria University attend an Industrial Design course. This could directly impact the skill set of the students in terms of the approaches they are able to use in telling a story. Wider cultural impacts on their approach could include their exposure to popular culture and the different way designer's roles or identities are represented by media in each nationality. Although many groups took place in the project, only 18 groups produced stories, therefore these were used for this research study.

4 OBSERVED APPROACHES OF THE STUDENTS

4.1 Artistry

Despite how well executed this was, there existed a preference among the design teams involved in The Gift project in using distinguished artistic styling (16 out of 18 precisely). Some examples of artistry in the design stories submitted by the teams included; an Australian team who edited black and white footage of their final design concept accompanied by classical music to simulate a silent movie, and several English teams who used panelled cells with imagery and text simulating the classic formula of a comic strip layout.

4.2 Characterisation and Familiarity

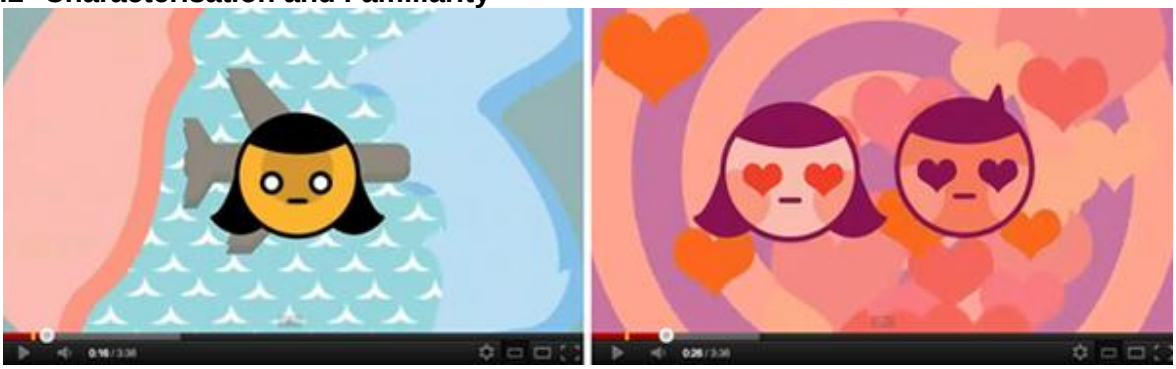

Figure 1. Long Distance Lover Screenshots

Using characterisation was an approach that 14 out 18 design teams participating in this project used when telling their stories. For example, a group made up of students from the university in Korea, designed a camera that communicates with another by superimposing pictures together. 'Long Distance Lover', the story they told about this concept, describes a situation where a girl from their team falls in love with a boy from their partnering team during the gift-giving visit. The camera is used to maintain the relationship after the visit, placing their partnering team, or client, in a hero-protagonist role (figure 1). Another group comprising of students from the university in Taiwan, described how a journalist from Australia, their partnering team's country of origin, uses their concept to overcome difficulties in photographing Kangaroos.

Several of the student teams at interim project stages posted storyboards of their initial concepts on the dedicated project websites to seek feedback, helping to inform decisions as the design process took place. Some examples of these told stories using characterisation also, through placing a persona in a scenario in order to convey the initial concepts. For example one of the groups, comprising of students from the university in Japan, used the persona of an excited child in the scenario of waking up on Easter morning to explore their initial gift concepts. However, most teams did not use this approach to storytelling at their initial concept stage; rather they presented their ideas as a series of sketches. During the unveiling of the design solution's final stories, more teams had implemented a persona-scenario.

Despite these differences in approach to characterisation within the stories, the above examples demonstrate a theme in using familiarity with regards to a general storytelling approach. Using characters, environments and situations immediately familiar to their partnering team was a common strategy. The Korean team's story 'Long distance lover' used a Taiwanese character as their partnering

team was from Taiwan, the Taiwanese team used the Australian outback as a setting for their story as their partnering team was Australian, the Japanese team used waking up on Easter morning, a universally understood situation, to demonstrate the value of their design concept. There was little discrepancy between the design teams when selecting characters, environments and situations; they were all selected with regards to how familiar they were with their partnering team.

4.3 Semiotic Layering

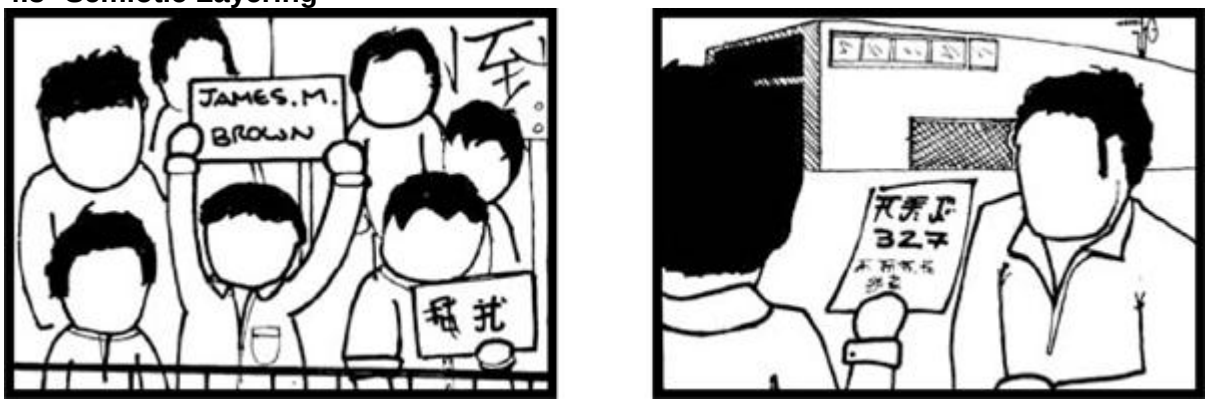

Figure 2. English Student's Comic Cells

The use of semiotic environments in the student's approach to storytelling varied widely. Almost all of the submissions dealt with at least imagery and text (17 out of 18 precisely). However, varying skill sets meant that some teams used a lot more semiotic environments than others. For example student teams (of which there were 8) who submitted animations often dealt with the manipulation of speech, music, imagery, film and text simultaneously, whereas English student teams (of which there were 2) who submitted comic strips only dealt with imagery and text (see figure 2). The simultaneous use of the semiotic environments in the stories submitted by the Korean students defines them as Digital Stories, which as Signes [12] proposes, offers a richer experience for the audience.

4.4 Time-based

Practically all design teams employed the use of a time-based approach in telling their stories, setting out occurrences in a chronological order. Madsen and Nielsen [11] stress the importance of sequence in the creation of a persona-scenario, through demonstrating an order of the types of events when telling a design story. As many teams used a persona-scenario in the delivery of their design solution, a chronological sequence of occurrences seemed unavoidable in the construction of their stories.

5 DISCUSSION AND CONCLUSION

The following conclusions can be made about the design artefacts submitted by the students in The Gift project.

All design teams submitted stories with a basic level of artistic flare, the selection criteria for characters, and also environments and situations was how familiar they were to their partnering teams, and finally all the stories had a set sequence of occurrences in chronological order. Therefore it can be concluded that design teams have a preference for using an artistic style in the execution of a story, use familiarity; deliberately opting for characters, environments and situations that the audience can empathise with, and set out occurrences in a chronological order.

However, although most teams used characters in their storytelling, there existed various techniques in which they used them. Some teams used their partnering team as inspiration for their final characters, adopting the hero-protagonist technique. Others used universally empathetic characters to demonstrate a relationship with the design solution. Others used uncharacterised human forms in order to simply demonstrate interaction with the design solution. With regards to semiotic layering, students from the Korean university constructed animated stories that dealt with speech, music, imagery, film and text. Other student teams provided storyboards, most frequently in a panelled comic strip formula, only dealing with the semiotic layers: imagery and text.

6 IMPLICATIONS FOR EDUCATION

In general terms, we believe that the close relationship established in this paper between storytelling and design justifies the inclusion of it as a theme for education across all design courses. Adopting the approaches discussed can all contribute to better production of design artefacts in that: using artistic styling can provide a story which inspires action, using characterisation and familiarity can provide a story that the audience can empathise with more easily, layering semiotic environments contributes to a richer experience of storytelling and consideration of the timing and sequence of events can promote understanding.

More specifically, in light of what has been observed during The Gift project, it can be seen that adopting an artistic style, using familiarity when choosing characters, environments and situations and considering the timing and sequence of events are approaches that were universally employed. Therefore, it may be wise to focus on the education of the range of techniques available in using characterisation such as the hero-protagonist and persona-scenario techniques, and encourage the use of multiple semiotic environments through teaching the skills required to do this.

Further to this, we believe that focusing on storytelling as a module within design education would also stand to benefit students in the creation of design artefacts because although they currently adopt many approaches described as best practice for one reason or another by theorists, it is not known whether this is done consciously. The exploration of consciousness in the employment of storytelling techniques among design students would help in the consideration of specific educational requirements in this area.

To take this research further it would be useful to run a project with a similar conglomerate of design students where they are all made aware of the approaches to storytelling theorised in this paper. Exploring how having this explicit knowledge affects their approach to storytelling will help to highlight support required in their education with regard to this topic, should it be regarded as useful.

ACKNOWLEDGEMENTS

The authors would like to thank our colleague Aysar Ghassan, participating staff and students from the collaborating universities and our external partners. We would like to acknowledge support from JISC infoNet which supported Open ICT Tools project under its BCE programme. In addition we would like to thank staff from LTech and IT services at Northumbria University who kindly provided technical support for this project.

REFERENCES

[1] McDonnel, J., Lloyd, P. and Valkenburg, R. C. 2004. Developing design expertise through the construction of video stories. *Design Studies,* 25**,** 509-525.

[2] Leonardi, P. M. and Bailey, D. 2008. Transformational Technologies and the Creation of New Work Practices: Making Implicit Knowledge Explicit in Task-based Offshoring. *MIS Quarterly,* 32**,** 159-176.

[3] Bruner, J. (ed.) 2002. *Making Stories: Law, Literature, Life (1st ed.),* New York: Farrar, Straus, and Giroux.

[4] Philmlee, D. 2005. *Telling Stories: Design as a Business Strategy* [Online]. [Accessed 08 February 2012].

[5] Porter, L. and S. Sotelo. 2004. *Design by Narrative.* Congresco Internacional IERG.

[6] Sonnenwald, D.H. 1996. Communication roles that support collaboration during the design process. *Design Studies*, 17(3), 277-301.

[7] Lloyd, P. Storytelling and the development of discourse in the engineering design process. *Design Studies*, 2000, 21(4), 357–373.

[8] Tufts, H. 1990. Filmmakers Robin J. Hood and Penny Joy. *Canadian Woman Studies/Les Cahiers de la Femme,* 2**,** 94-96.

[9] Seah, D. 2010. *Storytelling by Design* [Online]. Available: http://davidseah.com/blog/storytelling-by-design [Accessed April 2010].

[10] Denning, S. 2007. *The Springboard: How Storytelling Ignites Action in Knowledge-Era Organizations,* USA, Butterworth-Heinemann.

[11] Madsen, S. and Nielsen, L. 2010. Exploring Persona-Scenarios - Using Storytelling to Create Design Ideas. *International Federation for Information Processing,* 316**,** 57-66.

[12] Signes, C. G. 2010. Practical Uses of Digital Storytelling, Universitat de Valencia.